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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,217	07/14/2003	Giuseppe Colombo	09728.0294US01	7019
23552	7590	12/23/2004	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			DAVIS, OCTAVIA L	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,217

Applicant(s)

COLOMBO ET AL.

Examiner

Octavia Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/19/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4 – 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDearmon in view of Ouchi et al.

Regarding claims 1, 4 and 6, McDearmon discloses a bearing assembly with sensors for monitoring loads comprising a hub 12 integrally fixed to a radial flange 26, a measuring device M, 70 mounted on a non-rotating part 40 of a vehicle and operatively facing an essentially radial surface secured to the flange, detecting real time variations of the axial position of the surface due to elastic deformation of the flange caused by forces transmitted from the wheel to the hub flange (See Col. 4, lines 4 –11) but does not disclose that the measuring device includes an emitter means for projecting a light radiation onto reflecting surface and a receiver means for receiving the light radiation reflected back by the reflecting surface. However, Ouchi et al disclose a speed sensing rolling bearing unit comprising a measuring device 6 embedded in a synthetic resin block 21, the device including a light emitter 22a and a light receiver 22b (See Col. 8, lines 37 – 48, See Fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify McDearmon according to the teachings of Ouchi

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et al for the purpose of, reliably carrying out rotational speed detection and simple detection signal judgment in relation to a light receiver whose detection signal changes based on the passing of a light transparent portion and a passing of a light blocking portion between the light emitter and the light receiver (See Ouchi et al, Col. 6, lines 16 – 22).

Regarding claim 5, in McDearmon, the measuring device is arranged for carrying out said measuring operation in proximity of the peripheral zone of the hub flange (See Col. 8, lines 1 – 16).

Regarding claim 7, in McDearmon, the measuring device M, 70 is fixable to a non-rotating race 40 of the bearing 16 (See Fig. 1).

Regarding claim 9, in McDearmon, the measuring device M, 70 is connected to an electronic processing unit and recognizes a condition indicative of an impending loss of adhesion with the road (See Col. 7, lines 2 – 15).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDearmon in view of Ouchi et al, as applied to claims 1, 4 – 7 and 9 above, and further in view of Meeker et al.

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Regarding claims 8 and 10, McDearmon and Ouchi et al disclose all of the limitations of these claims except for a teaching that the measuring device is connected to an electronic processing unit mounted on board the vehicle and set for automatically controlling, based on the deformation signals received from the measuring device, wearable members of a braking system for adapting their position to the position of a rotor brake rigidly connected to the flange of the hub. However, Meeker et al discloses a vehicle wheel bearing and wheel speed sensor comprising a bearing 10, a sensor 16, 20, 22 for a braking system (See Col. 2, lines 37 – 46), the sensor attached to a computer means 32 and a brake rotor 56 and bracket 30 (See Col. 4, lines 1 – 24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify McDearmon and Ouchi et al according to the teachings of Meeker et al for the purpose of, providing an improved vehicle bearing wherein a single bracket functions as a shipping shield and aids in reducing the number of needed parts and eliminating the need to discard a part after shipping (See Meeker et al, Col. 5, lines 20 – 27).

Response to Arguments

5. Applicant's arguments filed 10/19/04 have been fully considered but they are not persuasive. In response to applicant's argument that the references do not disclose an optical sensor for detecting real time variations of the axial position of the surface due to elastic deformation of the flange, it is the examiner's position that in McDearmon the hub, including the flange 26, extends into the bearing 16 which is contained within the housing 14, the optical sensor M, 70 includes an optically reflecting surface 62 that

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elongates axially due to the flexure of the housing 14 via the radial loads exerted by the roller 54, the loads being reflected in the signals from the sensors 70 (See Col. 7, lines 16 – 64), thus the references still stand.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication should be directed to Examiner Octavia Davis at telephone number (571) 272 - 2176. The examiner can normally be reached on Monday - Thursdays (9:00 - 5:00), Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on (571) 272 - 2180. The fax phone number for the organization where this application where this application or proceeding is assigned is (703) 872 - 9306.

OD/2855

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